



SEQUENCE LISTING

<110> TOOLGEN, Inc.

<120> Regulatory Zinc Finger Proteins

<130> Q88285

<140> US 10/538,041

<141> 2005-06-08

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<151> 2002-12-09

<160> 129

<170> PatentIn version 3.2

<210> 1

<211> 23

<212> PRT

<213> Homo sapiens

<400> 1

Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu
1 5 10 15

Arg Arg His Gly Arg Thr His
20

<210> 2

<211> 23

<212> PRT

<213> Homo sapiens

<400> 2

Tyr Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser Asp Ser Ser Ala Lys
1 5 10 15

Arg Arg His Cys Ile Leu His
20

<210> 3

<211> 23

<212> PRT

<213> Homo sapiens

<400> 3

Tyr Thr Cys Ser Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu
1 5 10 15

Asn Arg His Arg Arg Thr His
20

<210> 4
<211> 23
<212> PRT
<213> Homo sapiens

<400> 4

Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
1 5 10 15

Thr Arg His Gln Lys Ile His
20

<210> 5
<211> 23
<212> PRT
<213> Homo sapiens

<400> 5

Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
1 5 10 15

Thr Thr His Lys Ile Ile His
20

<210> 6
<211> 23
<212> PRT
<213> Homo sapiens

<400> 6

Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu
1 5 10 15

Thr Arg His Lys Lys Ser His
20

<210> 7
<211> 23
<212> PRT
<213> Homo sapiens

<400> 7

Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
1 5 10 15

Thr Val His Gln Lys Ile His
20

<210> 8
<211> 23

<212> PRT
<213> Homo sapiens

<400> 8

Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
1 5 10 15

Ile Arg His Gln Arg Thr His
20

<210> 9
<211> 25
<212> PRT
<213> Homo sapiens

<400> 9

Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
1 5 10 15

Glu Leu Asn Arg His Lys Lys Arg His
20 25

<210> 10
<211> 23
<212> PRT
<213> Homo sapiens

<400> 10

Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
1 5 10 15

Lys Thr His Thr Arg Thr His
20

<210> 11
<211> 23
<212> PRT
<213> Homo sapiens

<400> 11

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15

Thr Arg His Gln Arg Ile His
20

<210> 12
<211> 23
<212> PRT
<213> Homo sapiens

<400> 12

Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
1 5 10 15

Ile Arg His Gln Arg Thr His
20

<210> 13

<211> 23

<212> PRT

<213> Homo sapiens

<400> 13

Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu
1 5 10 15

Asn Val His Arg Arg Ile His
20

<210> 14

<211> 23

<212> PRT

<213> Homo sapiens

<400> 14

Tyr Thr Cys Lys Gln Cys Gly Lys Ala Phe Ser Val Ser Ser Ser Leu
1 5 10 15

Arg Arg His Glu Thr Thr His
20

<210> 15

<211> 23

<212> PRT

<213> Homo sapiens

<400> 15

Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser Val Ser Ser Thr Leu
1 5 10 15

Ile Arg His Gln Arg Ile His
20

<210> 16

<211> 23

<212> PRT

<213> Homo sapiens

<400> 16

Tyr Arg Cys Glu Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu
 1 5 10 15

Thr Arg His Lys Arg Ile His
 20

<210> 17
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 17

Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
 1 5 10 15

Asn Val His Lys Arg Thr His
 20

<210> 18
 <211> 23
 <212> PRT
 <213> Homo sapiens

<400> 18

Phe Leu Cys Gln Tyr Cys Ala Gln Arg Phe Gly Arg Lys Asp His Leu
 1 5 10 15

Thr Arg His Met Lys Lys Ser
 20

<210> 19
 <211> 24
 <212> PRT
 <213> Artificial

<220>
 <223> Artificial zinc finger domain

<400> 19

Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Asp Ser Ser Asn Leu
 1 5 10 15

Gln Arg His Val Arg Asn Ile His
 20

<210> 20
 <211> 83
 <212> PRT
 <213> Artificial

<220>

<223> artificial zinc finger protein

<400> 20

Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
1 5 10 15
Thr Arg His Gln Lys Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys
20 25 30
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Ile Cys Arg Lys Cys Gly Arg
50 55 60
Gly Phe Ser Arg Lys Ser Asn Leu Ile Arg His Gln Arg Thr His Thr
65 70 75 80
Gly Glu Lys

<210> 21

<211> 83

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 21

Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
1 5 10 15
Thr Thr His Lys Ile Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met
20 25 30
Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
50 55 60
Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
65 70 75 80
Gly Glu Lys

<210> 22

<211> 83

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 22

Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
1 5 10 15
Thr Arg His Gln Lys Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys
20 25 30
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys
50 55 60
Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr
65 70 75 80
Gly Glu Lys

<210> 23

<211> 83

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 23

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys
20 25 30
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp His Cys Gly Lys
50 55 60
Ala Phe Ser Val Ser Ser Asn Leu Asn Val His Arg Arg Ile His Thr
65 70 75 80
Gly Glu Lys

<210> 24

<211> 84

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 24

Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu

1	5	10	15
Asn Val His Lys Arg Thr His Thr Gly Glu Lys Pro Phe Leu Cys Gln	20	25	30
Tyr Cys Ala Gln Arg Phe Gly Arg Lys Asp His Leu Thr Arg His Met	35	40	45
Lys Lys Ser His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln	50	55	60
Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His	65	70	75
Thr Gly Glu Lys			80

<210> 25
 <211> 83
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 25

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu	1	5	10	15
Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys	20	25	30	
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr	35	40	45	
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys	50	55	60	
Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr	65	70	75	80
Gly Glu Lys				

<210> 26
 <211> 84
 <212> PRT
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<220>
 <223> artificial zinc finger protein

<400> 26

Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu	1	5	10	15
---	---	---	----	----

Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Glu
20 25 30

Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His Lys
35 40 45

Arg Ile His Thr Gly Glu Lys Pro Phe Leu Cys Gln Tyr Cys Ala Gln
50 55 60

Arg Phe Gly Arg Lys Asp His Leu Thr Arg His Met Lys Lys Ser His
65 70 75 80

Thr Gly Glu Lys

<210> 27
<211> 83
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 27

Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu
1 5 10 15

Arg Arg His Gly Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Glu
20 25 30

Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His Lys
35 40 45

Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys
50 55 60

Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr
65 70 75 80

Gly Glu Lys

<210> 28
<211> 85
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 28

Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Asp Ser Ser Asn Leu

1	5	10	15
Gln Arg His Val Arg Asn Ile His Thr Gly Glu Lys Pro Tyr Arg Cys	20	25	30
Glu Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His	35	40	45
Lys Arg Ile His Thr Gly Glu Lys Pro Phe Leu Cys Gln Tyr Cys Ala	50	55	60
Gln Arg Phe Gly Arg Lys Asp His Leu Thr Arg His Met Lys Lys Ser	65	70	75
His Thr Gly Glu Lys	85		

<210> 29
 <211> 84
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 29

Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Asp Ser Ser Asn Leu	1	5	10	15
Gln Arg His Val Arg Asn Ile His Thr Gly Glu Lys Pro Tyr Arg Cys	20	25	30	
Glu Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His	35	40	45	
Lys Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly	50	55	60	
Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His	65	70	75	80
Thr Gly Glu Lys				

<210> 30
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 30

Tyr Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser Asp Ser Ser Ala Lys	1	5	10	15
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Arg Arg His Cys Ile Leu His Thr Gly Glu Lys Pro Tyr Ile Cys Arg
 20 25 30
 Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu Ile Arg His Gln
 35 40 45
 Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 50 55 60
 Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
 65 70 75 80
 Gly Glu Lys Pro Tyr Thr Cys Lys Gln Cys Gly Lys Ala Phe Ser Val
 85 90 95
 Ser Ser Ser Leu Arg Arg His Glu Thr Thr His Thr Gly Glu Lys
 100 105 110

<210> 31
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 31

Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
 1 5 10 15
 Thr Thr His Lys Ile Ile His Thr Gly Glu Lys Pro Tyr Ser Cys Gly
 20 25 30
 Ile Cys Gly Lys Ser Phe Ser Asp Ser Ser Ala Lys Arg Arg His Cys
 35 40 45
 Ile Leu His Thr Gly Glu Lys Pro Tyr Ile Cys Arg Lys Cys Gly Arg
 50 55 60
 Gly Phe Ser Arg Lys Ser Asn Leu Ile Arg His Gln Arg Thr His Thr
 65 70 75 80
 Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg
 85 90 95
 Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys
 100 105 110

<210> 32
 <211> 111
 <212> PRT
 <213> Artificial

<220>

<223> artificial zinc finger protein

<400> 32

Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
1 5 10 15
Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp
20 25 30
His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu Asn Val His Arg
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys
50 55 60
Ala Phe Arg Gln Ser Ser His Leu Thr Thr His Lys Ile Ile His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser Asp
85 90 95
Ser Ser Ala Lys Arg Arg His Cys Ile Leu His Thr Gly Glu Lys
100 105 110

<210> 33

<211> 111

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 33

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Thr Cys Ser
20 25 30
Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu Asn Arg His Arg
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys
50 55 60
Ala Phe Arg Gln Ser Ser His Leu Thr Thr His Lys Ile Ile His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Thr Cys Ser Asp Cys Gly Lys Ala Phe Arg Asp
85 90 95
Lys Ser Cys Leu Asn Arg His Arg Arg Thr His Thr Gly Glu Lys
100 105 110

<210> 34
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 34

Tyr	Glu	Cys	Glu	Lys	Cys	Gly	Lys	Ala	Phe	Asn	Gln	Ser	Ser	Asn	Leu
1				5					10					15	
Thr	Arg	His	Lys	Lys	Ser	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Gly
			20					25					30		
Gln	Cys	Gly	Lys	Phe	Tyr	Ser	Gln	Val	Ser	His	Leu	Thr	Arg	His	Gln
		35					40					45			
Lys	Ile	His	Thr	Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg
	50					55					60				
Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr
65					70				75					80	
Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg
				85					90					95	
Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	Arg	Thr	His	Thr	Gly	Glu	Lys	
			100					105					110		

<210> 35
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 35

Tyr	Lys	Cys	Lys	Gln	Cys	Gly	Lys	Ala	Phe	Gly	Cys	Pro	Ser	Asn	Leu
1				5					10					15	
Arg	Arg	His	Gly	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys
			20					25					30		
Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr
		35					40					45			
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg
	50					55					60				
Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	Arg	Thr	His	Thr
65					70				75					80	

Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
85 90 95

Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
100 105 110

<210> 36
<211> 113
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 36

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15

Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Glu
20 25 30

Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu Thr Thr His Lys
35 40 45

Ile Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys
50 55 60

Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr
65 70 75 80

Gly Glu Lys Pro Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe
85 90 95

Ala Arg Ser Asp Glu Leu Asn Arg His Lys Lys Arg His Thr Gly Glu
100 105 110

Lys

<210> 37
<211> 111
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 37

Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu
1 5 10 15

Thr Arg His Lys Lys Ser His Thr Gly Glu Lys Pro Tyr Lys Cys Met
20 25 30

Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
 35 40 45

Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Asp Cys Gly Lys
 50 55 60

Ser Phe Ser Gln Ser Ser Ser Leu Ile Arg His Gln Arg Thr His Thr
 65 70 75 80

Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
 85 90 95

Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
 100 105 110

<210> 38
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 38

Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
 1 5 10 15

Thr Thr His Lys Ile Ile His Thr Gly Glu Lys Pro Tyr Thr Cys Ser
 20 25 30

Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu Asn Arg His Arg
 35 40 45

Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 50 55 60

Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
 65 70 75 80

Gly Glu Lys Pro Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys
 85 90 95

Pro Ser Asn Leu Arg Arg His Gly Arg Thr His Thr Gly Glu Lys
 100 105 110

<210> 39
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 39

Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
 1 5 10 15
 Thr Thr His Lys Ile Ile His Thr Gly Glu Lys Pro Tyr Arg Cys Glu
 20 25 30
 Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His Lys
 35 40 45
 Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys
 50 55 60
 Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr
 65 70 75 80
 Gly Glu Lys Pro Tyr Arg Cys Glu Glu Cys Gly Lys Ala Phe Arg Trp
 85 90 95
 Pro Ser Asn Leu Thr Arg His Lys Arg Ile His Thr Gly Glu Lys
 100 105 110

<210> 40
 <211> 113
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 40

Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu
 1 5 10 15
 Asn Val His Arg Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met
 20 25 30
 Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
 35 40 45
 Arg Ile His Thr Gly Glu Lys Pro Tyr Val Cys Asp Val Glu Gly Cys
 50 55 60
 Thr Trp Lys Phe Ala Arg Ser Asp Glu Leu Asn Arg His Lys Lys Arg
 65 70 75 80
 His Thr Gly Glu Lys Pro Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe
 85 90 95
 Thr Gln Ser Ser Asn Leu Thr Val His Gln Lys Ile His Thr Gly Glu
 100 105 110

Lys

<210> 41
 <211> 111

<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 41

Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
1 5 10 15
Ile Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Met
20 25 30
Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
50 55 60
Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
85 90 95
Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
100 105 110

<210> 42
<211> 111
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 42

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys
20 25 30
Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys
50 55 60
Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr
65 70 75 80
Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg
85 90 95
Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys

100

105

110

<210> 43
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 43

Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
 1 5 10 15
 Ile Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Gly
 20 25 30
 Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu Thr Arg His Gln
 35 40 45
 Lys Ile His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 50 55 60
 Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
 65 70 75 80
 Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
 85 90 95
 Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
 100 105 110

<210> 44
 <211> 113
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 44

Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
 1 5 10 15
 Glu Leu Asn Arg His Lys Lys Arg His Thr Gly Glu Lys Pro Tyr Lys
 20 25 30
 Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Ile Arg
 35 40 45
 His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys
 50 55 60
 Gly Lys Ala Phe Arg Gln Ser Ser His Leu Thr Thr His Lys Ile Ile

65		70		75		80									
His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg	Gly	Phe
				85					90					95	

Ser	Arg	Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	Arg	Thr	His	Thr	Gly	Glu
			100					105					110		

Lys

<210> 45
 <211> 111
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 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 45

Tyr	Lys	Cys	Met	Glu	Cys	Gly	Lys	Ala	Phe	Asn	Arg	Arg	Ser	His	Leu
1				5					10					15	

Thr	Arg	His	Gln	Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys
			20					25					30		

Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr
		35					40					45			

Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys	Asp	His	Cys	Gly	Lys
	50					55					60				

Ala	Phe	Ser	Val	Ser	Ser	Asn	Leu	Asn	Val	His	Arg	Arg	Ile	His	Thr
65						70				75					80

Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Glu	Glu	Cys	Gly	Lys	Ala	Phe	Arg	Gln
				85					90					95	

Ser	Ser	His	Leu	Thr	Thr	His	Lys	Ile	Ile	His	Thr	Gly	Glu	Lys
			100					105					110	

<210> 46
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 46

Tyr	Lys	Cys	Met	Glu	Cys	Gly	Lys	Ala	Phe	Asn	Arg	Arg	Ser	His	Leu
1				5					10					15	

Thr	Arg	His	Gln	Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Met
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

	20		25		30
Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln	35		40		45
Arg Ile His Thr Gly Glu Lys Pro Tyr Arg Cys Glu Glu Cys Gly Lys	50		55		60
Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His Lys Arg Ile His Thr	65		70		75
Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg	85		90		95
Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys	100		105		110

<210> 47
 <211> 113
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 47

Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp	1	5	10	15
Glu Leu Asn Arg His Lys Lys Arg His Thr Gly Glu Lys Pro Tyr Lys	20	25	30	
Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg	35	40	45	
His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Thr Cys Ser Asp Cys	50	55	60	
Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu Asn Arg His Arg Arg Thr	65	70	75	80
His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe	85	90	95	
Arg Gln Ser Ser His Leu Thr Thr His Lys Ile Ile His Thr Gly Glu	100	105	110	

Lys

<210> 48
 <211> 111
 <212> PRT
 <213> Artificial

<220>

<223> artificial zinc finger protein

<400> 48

Tyr	Lys	Cys	Met	Glu	Cys	Gly	Lys	Ala	Phe	Asn	Arg	Arg	Ser	His	Leu	
1				5					10					15		
Thr	Arg	His	Gln	Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys	Asn	
			20					25					30			
Tyr	Cys	Gly	Lys	Thr	Phe	Ser	Val	Ser	Ser	Thr	Leu	Ile	Arg	His	Gln	
		35					40					45				
Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys	Glu	Lys	Cys	Gly	Lys	
	50					55					60					
Ala	Phe	Asn	Gln	Ser	Ser	Asn	Leu	Thr	Arg	His	Lys	Lys	Ser	His	Thr	
65					70				75						80	
Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	
				85					90					95		
Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys		
			100					105					110			

<210> 49

<211> 113

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 49

Tyr	Lys	Cys	Glu	Glu	Cys	Gly	Lys	Ala	Phe	Arg	Gln	Ser	Ser	His	Leu	
1				5					10					15		
Thr	Thr	His	Lys	Ile	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	
			20					25					30			
Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	
		35					40					45				
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Arg	Cys	Glu	Glu	Cys	Gly	Lys	
	50					55					60					
Ala	Phe	Arg	Trp	Pro	Ser	Asn	Leu	Thr	Arg	His	Lys	Arg	Ile	His	Thr	
65					70				75						80	
Gly	Glu	Lys	Pro	Tyr	Val	Cys	Asp	Val	Glu	Gly	Cys	Thr	Trp	Lys	Phe	
				85					90					95		
Ala	Arg	Ser	Asp	Glu	Leu	Asn	Arg	His	Lys	Lys	Arg	His	Thr	Gly	Glu	
			100					105					110			

Lys

<210> 50
 <211> 113
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 50

Tyr	Lys	Cys	Glu	Glu	Cys	Gly	Lys	Ala	Phe	Arg	Gln	Ser	Ser	His	Leu
1				5					10					15	
Thr	Thr	His	Lys	Ile	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Arg	Cys	Glu
			20					25					30		
Glu	Cys	Gly	Lys	Ala	Phe	Arg	Trp	Pro	Ser	Asn	Leu	Thr	Arg	His	Lys
		35					40					45			
Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg
	50					55					60				
Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr
65					70					75					80
Gly	Glu	Lys	Pro	Tyr	Val	Cys	Asp	Val	Glu	Gly	Cys	Thr	Trp	Lys	Phe
				85					90					95	
Ala	Arg	Ser	Asp	Glu	Leu	Asn	Arg	His	Lys	Lys	Arg	His	Thr	Gly	Glu
			100					105					110		

Lys

<210> 51
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 51

Tyr	Thr	Cys	Lys	Gln	Cys	Gly	Lys	Ala	Phe	Ser	Val	Ser	Ser	Ser	Leu
1				5					10					15	
Arg	Arg	His	Glu	Thr	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Arg	Cys	Glu
			20					25					30		
Glu	Cys	Gly	Lys	Ala	Phe	Arg	Trp	Pro	Ser	Asn	Leu	Thr	Arg	His	Lys
		35					40					45			
Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg
	50					55					60				

Gly Phe Ser Arg Lys Ser Asn Leu Ile Arg His Gln Arg Thr His Thr
65 70 75 80

Gly Glu Lys Pro Tyr Thr Cys Lys Gln Cys Gly Lys Ala Phe Ser Val
85 90 95

Ser Ser Ser Leu Arg Arg His Glu Thr Thr His Thr Gly Glu Lys
100 105 110

<210> 52
<211> 111
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 52

Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
1 5 10 15

Thr Arg His Gln Lys Ile His Thr Gly Glu Lys Pro Tyr Thr Cys Lys
20 25 30

Gln Cys Gly Lys Ala Phe Ser Val Ser Ser Ser Leu Arg Arg His Glu
35 40 45

Thr Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Glu Glu Cys Gly Lys
50 55 60

Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His Lys Arg Ile His Thr
65 70 75 80

Gly Glu Lys Pro Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg
85 90 95

Lys Ser Asn Leu Ile Arg His Gln Arg Thr His Thr Gly Glu Lys
100 105 110

<210> 53
<211> 113
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 53

Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
1 5 10 15

Glu Leu Asn Arg His Lys Lys Arg His Thr Gly Glu Lys Pro Tyr Lys
20 25 30

Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu Thr Arg
 35 40 45

His Gln Lys Ile His Thr Gly Glu Lys Pro Tyr Thr Cys Lys Gln Cys
 50 55 60

Gly Lys Ala Phe Ser Val Ser Ser Ser Leu Arg Arg His Glu Thr Thr
 65 70 75 80

His Thr Gly Glu Lys Pro Tyr Arg Cys Glu Glu Cys Gly Lys Ala Phe
 85 90 95

Arg Trp Pro Ser Asn Leu Thr Arg His Lys Arg Ile His Thr Gly Glu
 100 105 110

Lys

<210> 54
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 54

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
 1 5 10 15

Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Gly
 20 25 30

Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu Thr Arg His Gln
 35 40 45

Lys Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys
 50 55 60

Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr
 65 70 75 80

Gly Glu Lys Pro Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe Thr Gln
 85 90 95

Ser Ser Asn Leu Thr Val His Gln Lys Ile His Thr Gly Glu Lys
 100 105 110

<210> 55
 <211> 111
 <212> PRT
 <213> Artificial

<220>

<223> artificial zinc finger protein

<400> 55

Tyr	Lys	Cys	Gly	Gln	Cys	Gly	Lys	Phe	Tyr	Ser	Gln	Val	Ser	His	Leu	
1				5					10					15		
Thr	Arg	His	Gln	Lys	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	
			20					25					30			
Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	
		35					40					45				
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Gly	Gln	Cys	Gly	Lys	
	50					55					60					
Phe	Tyr	Ser	Gln	Val	Ser	His	Leu	Thr	Arg	His	Gln	Lys	Ile	His	Thr	
65					70				75						80	
Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	
				85					90					95		
Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys		
			100					105					110			

<210> 56

<211> 111

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 56

Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	
1				5					10					15		
Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	
			20					25					30			
Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	
		35					40					45				
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Met	Glu	Cys	Gly	Lys	
	50					55					60					
Ala	Phe	Asn	Arg	Arg	Ser	His	Leu	Thr	Arg	His	Gln	Arg	Ile	His	Thr	
65					70				75						80	
Gly	Glu	Lys	Pro	Tyr	Arg	Cys	Glu	Glu	Cys	Gly	Lys	Ala	Phe	Arg	Trp	
				85					90					95		
Pro	Ser	Asn	Leu	Thr	Arg	His	Lys	Arg	Ile	His	Thr	Gly	Glu	Lys		
			100					105					110			

<210> 57
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 57

Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu
1				5					10					15	
Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Met
			20					25					30		
Glu	Cys	Gly	Lys	Ala	Phe	Asn	Arg	Arg	Ser	His	Leu	Thr	Arg	His	Gln
		35					40					45			
Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Lys	Gln	Cys	Gly	Lys
	50					55					60				
Ala	Phe	Gly	Cys	Pro	Ser	Asn	Leu	Arg	Arg	His	Gly	Arg	Thr	His	Thr
65					70					75				80	
Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg
				85					90					95	
Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	
			100					105					110		

<210> 58
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 58

Tyr	Lys	Cys	Met	Glu	Cys	Gly	Lys	Ala	Phe	Asn	Arg	Arg	Ser	His	Leu
1				5					10					15	
Thr	Arg	His	Gln	Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Lys
			20					25					30		
Gln	Cys	Gly	Lys	Ala	Phe	Gly	Cys	Pro	Ser	Asn	Leu	Arg	Arg	His	Gly
		35					40					45			
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg
	50					55					60				
Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr
65					70				75					80	
Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Lys	Gln	Cys	Gly	Lys	Ala	Phe	Gly	Cys

	85		90		95									
Pro	Ser	Asn	Leu	Arg	Arg	His	Gly	Arg	Thr	His	Thr	Gly	Glu	Lys
			100					105					110	

<210> 59
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 59

Tyr	Lys	Cys	Pro	Asp	Cys	Gly	Lys	Ser	Phe	Ser	Gln	Ser	Ser	Ser	Leu
1				5					10					15	

Ile	Arg	His	Gln	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Gly
			20					25					30		

Gln	Cys	Gly	Lys	Phe	Tyr	Ser	Gln	Val	Ser	His	Leu	Thr	Arg	His	Gln
		35					40					45			

Lys	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg
	50					55					60				

Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	Arg	Thr	His	Thr
65					70					75					80

Gly	Glu	Lys	Pro	Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg
			85						90					95	

Lys	Ser	Asn	Leu	Ile	Arg	His	Gln	Arg	Thr	His	Thr	Gly	Glu	Lys
			100					105					110	

<210> 60
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 60

Tyr	Glu	Cys	Asn	Tyr	Cys	Gly	Lys	Thr	Phe	Ser	Val	Ser	Ser	Thr	Leu
1				5					10					15	

Ile	Arg	His	Gln	Arg	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Glu
			20					25					30		

Glu	Cys	Gly	Lys	Ala	Phe	Arg	Gln	Ser	Ser	His	Leu	Thr	Thr	His	Lys
		35					40					45			

Ile	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Arg	Cys	Glu	Glu	Cys	Gly	Lys
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

50		55		60
Ala Phe Arg Trp Pro Ser Asn Leu Thr Arg His Lys Arg Ile His Thr				
65		70		75
Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg				
	85		90	95
Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys				
	100		105	110

<210> 61
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 61

Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser Val Ser Ser Thr Leu				
1	5		10	15
Ile Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Glu				
	20		25	30
Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu Thr Arg His Lys				
	35		40	45
Lys Ser His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys				
	50		55	60
Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr				
65	70		75	80
Gly Glu Lys Pro Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln				
	85		90	95
Ser Ser Asn Leu Thr Arg His Lys Lys Ser His Thr Gly Glu Lys				
	100		105	110

<210> 62
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 62

Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu				
1	5		10	15
Thr Arg His Lys Lys Ser His Thr Gly Glu Lys Pro Tyr Lys Cys Met				
	20		25	30

Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
35 40 45

Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Glu Lys Cys Gly Lys
50 55 60

Ala Phe Asn Gln Ser Ser Asn Leu Thr Arg His Lys Lys Ser His Thr
65 70 75 80

Gly Glu Lys Pro Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val
85 90 95

Ser Ser Asn Leu Asn Val His Arg Arg Ile His Thr Gly Glu Lys
100 105 110

<210> 63

<211> 113

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 63

Tyr Thr Cys Ser Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu
1 5 10 15

Asn Arg His Arg Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys
20 25 30

Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
35 40 45

Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asn Tyr Cys Gly Lys
50 55 60

Thr Phe Ser Val Ser Ser Thr Leu Ile Arg His Gln Arg Ile His Thr
65 70 75 80

Gly Glu Lys Pro Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe
85 90 95

Ala Arg Ser Asp Glu Leu Asn Arg His Lys Lys Arg His Thr Gly Glu
100 105 110

Lys

<210> 64

<211> 111

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 64

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Thr Cys Ser
20 25 30
Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu Asn Arg His Arg
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
50 55 60
Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
85 90 95
Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
100 105 110

<210> 65

<211> 111

<212> PRT

<213> Artificial

<220>

<223> artificial zinc finger protein

<400> 65

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met
20 25 30
Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Tyr Val Cys Ser Lys Cys Gly Lys
50 55 60
Ala Phe Thr Gln Ser Ser Asn Leu Thr Val His Gln Lys Ile His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe Thr Gln
85 90 95
Ser Ser Asn Leu Thr Val His Gln Lys Ile His Thr Gly Glu Lys
100 105 110

<210> 66
 <211> 113
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 66

Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu
1				5					10					15	
Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Thr	Cys	Lys
			20					25					30		
Gln	Cys	Gly	Lys	Ala	Phe	Ser	Val	Ser	Ser	Ser	Leu	Arg	Arg	His	Glu
		35					40					45			
Thr	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Val	Cys	Asp	Val	Glu	Gly	Cys
	50					55					60				
Thr	Trp	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Asn	Arg	His	Lys	Lys	Arg
65					70					75					80
His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Pro	Asp	Cys	Gly	Lys	Ser	Phe
				85					90					95	
Ser	Gln	Ser	Ser	Ser	Leu	Ile	Arg	His	Gln	Arg	Thr	His	Thr	Gly	Glu
			100					105					110		

Lys

<210> 67
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 67

Tyr	Ile	Cys	Arg	Lys	Cys	Gly	Arg	Gly	Phe	Ser	Arg	Lys	Ser	Asn	Leu
1				5					10					15	
Ile	Arg	His	Gln	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Lys	Cys	Pro
			20					25					30		
Asp	Cys	Gly	Lys	Ser	Phe	Ser	Gln	Ser	Ser	Ser	Leu	Ile	Arg	His	Gln
		35					40					45			
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys	Glu	Lys	Cys	Gly	Lys
	50					55					60				
Ala	Phe	Asn	Gln	Ser	Ser	Asn	Leu	Thr	Arg	His	Lys	Lys	Ser	His	Thr
65					70					75					80

Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
85 90 95

Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
100 105 110

<210> 68
<211> 111/
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 68

Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
1 5 10 15

Ile Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Ser Cys Gly
20 25 30

Ile Cys Gly Lys Ser Phe Ser Asp Ser Ser Ala Lys Arg Arg His Cys
35 40 45

Ile Leu His Thr Gly Glu Lys Pro Tyr Glu Cys Glu Lys Cys Gly Lys
50 55 60

Ala Phe Asn Gln Ser Ser Asn Leu Thr Arg His Lys Lys Ser His Thr
65 70 75 80

Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln
85 90 95

Ser Ser His Leu Thr Thr His Lys Ile Ile His Thr Gly Glu Lys
100 105 110

<210> 69
<211> 111
<212> PRT
<213> Artificial

<220>
<223> artificial zinc finger protein

<400> 69

Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15

Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Lys
20 25 30

Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu Arg Arg His Gly
35 40 45

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys
 50 55 60

Ala Phe Arg Gln Ser Ser His Leu Thr Thr His Lys Ile Ile His Thr
 65 70 75 80

Gly Glu Lys Pro Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg
 85 90 95

Lys Ser Asn Leu Ile Arg His Gln Arg Thr His Thr Gly Glu Lys
 100 105 110

<210> 70
 <211> 111
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 70

Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
 1 5 10 15

Ile Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Glu
 20 25 30

Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu Thr Thr His Lys
 35 40 45

Ile Ile His Thr Gly Glu Lys Pro Tyr Ser Cys Gly Ile Cys Gly Lys
 50 55 60

Ser Phe Ser Asp Ser Ser Ala Lys Arg Arg His Cys Ile Leu His Thr
 65 70 75 80

Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg
 85 90 95

Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu Lys
 100 105 110

<210> 71
 <211> 113
 <212> PRT
 <213> Artificial

<220>
 <223> artificial zinc finger protein

<400> 71

Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
 1 5 10 15

Thr Arg His Gln Lys Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met
 20 25 30
 Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
 35 40 45
 Arg Ile His Thr Gly Glu Lys Pro Tyr Val Cys Asp Val Glu Gly Cys
 50 55 60
 Thr Trp Lys Phe Ala Arg Ser Asp Glu Leu Asn Arg His Lys Lys Arg
 65 70 75 80
 His Thr Gly Glu Lys Pro Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe
 85 90 95
 Asn Arg Arg Ser His Leu Thr Arg His Gln Arg Ile His Thr Gly Glu
 100 105 110

Lys

<210> 72
 <211> 96
 <212> PRT
 <213> Homo sapiens

<400> 72

Asp Ala Lys Ser Leu Thr Ala Trp Ser Arg Thr Leu Val Thr Phe Lys
 1 5 10 15
 Asp Val Phe Val Asp Phe Thr Arg Glu Glu Trp Lys Leu Leu Asp Thr
 20 25 30
 Ala Gln Gln Ile Val Tyr Arg Asn Val Met Leu Glu Asn Tyr Lys Asn
 35 40 45
 Leu Val Ser Leu Gly Tyr Gln Leu Thr Lys Pro Asp Val Ile Leu Arg
 50 55 60
 Leu Glu Lys Gly Glu Glu Pro Trp Leu Val Glu Arg Glu Ile His Gln
 65 70 75 80
 Glu Thr His Pro Asp Ser Glu Thr Ala Phe Glu Ile Lys Ser Ser Val
 85 90 95

<210> 73
 <211> 260
 <212> PRT
 <213> Homo sapiens

<400> 73

Tyr Leu Pro Asp Thr Asp Asp Arg His Arg Ile Glu Glu Lys Arg Lys
 1 5 10 15

Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys Ser Pro Phe Ser
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 Gly Pro Thr Asp Pro Arg Pro Pro Arg Arg Ile Ala Val Pro Ser
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 Arg Ser Ser Ala Ser Val Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe
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 Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe Pro Thr Met Val
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 Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro
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 Pro Gln Val Leu Pro Gln Ala Pro Ala Pro Ala Pro Ala Pro Ala Met
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 Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro Val Leu Ala Pro
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 Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala
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 Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp
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 Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp Pro Ala Val Phe
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 Thr Asp Leu Ala Ser Val Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn
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 Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro Met Leu Met Glu
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 Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Ala Gln Arg Pro Pro Asp
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 Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu
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 Ser Gln Ala Leu Ser Gln Pro Ile Ala Ser Ser Asn Val His Asp Asn
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 Phe Met Asn Asn Glu Ile Thr Ala Ser Lys Ile Asp Asp Gly Asn Asn
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 Ser Lys Pro Leu Ser Pro Gly Trp Thr Asp Gln Thr Ala Tyr Asn Ala
 65 70 75 80
 Phe Gly Ile Thr Thr Gly Met Phe Asn Thr Thr Thr Met Asp Asp Val
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Lys Pro Ile Ser Asn Val Asn Asp Met Asn Asn Thr Asn Ala Leu Gly
 35 40 45

Val Pro Ala Ser Arg Pro His Ser Ser Ser Phe Pro Ser Lys Gly Val
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Leu Arg Pro Ile Leu Leu Arg Ile His Asn Ser Glu Gln Gln Pro Ile
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<221>  misc_feature
<222>  (23)..(25)
<223>  any amino acid, some may be missing

<400>  124

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Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Arg Xaa Asp Glu
 1 5 10 15

Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
 20 25

<210> 125
 <211> 6
 <212> PRT
 <213> Artificial

<220>
 <223> exemplary linker consensus

<220>
 <221> misc_feature
 <222> (3)..(3)
 <223> Glu or Gln

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> Arg or Lys

<220>
 <221> misc_feature
 <222> (6)..(6)
 <223> Tyr or Phe

<400> 125

Thr Gly Xaa Xaa Pro Xaa
 1 5

<210> 126
 <211> 30
 <212> PRT
 <213> Artificial

<220>
 <223> Exemplary N-terminal sequences

<400> 126

Met Val Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Glu Leu Pro Pro Lys
 1 5 10 15

Lys Lys Arg Lys Val Gly Ile Arg Ile Pro Gly Glu Lys Pro
 20 25 30

<210> 127
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> primer sequence
 <400> 127
 cggggtaccc cctcccagtc actgactaac 30

<210> 128
 <211> 30
 <212> DNA
 <213> Artificial

<220>
 <223> primer sequence
 <400> 128
 ccgctcgagt ccggcgggtca cccccaaaag 30

<210> 129
 <211> 89
 <212> PRT
 <213> Homo sapiens

<400> 129
 Glu Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
 1 5 10 15
 Arg Ser Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys
 20 25 30
 Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His
 35 40 45
 Leu Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
 50 55 60
 Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His
 65 70 75 80
 Thr Lys Ile His Leu Arg Gln Lys Asp
 85